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means for providing isotonic input to said host computer system if said interface device is in said isotonic mode, wherein said isotonic input is used by said host computer system to update a position of a user-controlled graphical object in said graphical environment to correspond to a position of a user-manipulated physical object in provided degrees of freedom;

means for applying a force to said physical object in said isotonic mode; and

means for providing isometric input to said host computer system if said interface device is in said isometric mode, wherein said isometric input is used by said host computer system to control an isometric function of said graphical environment based on an input force applied by said user to said physical object, wherein said input force is determined based on a user-imparted physical deviation of said user manipulable object in one or more of said degrees of freedom.

60. An apparatus as recited in claim **59** further comprising means for applying an opposing force to said user object in

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said isometric mode, wherein said opposing force opposes said deviation of said user manipulable object.

61. An apparatus as recited in claim **60** wherein said user-controlled graphical object is a cursor and said graphical environment includes a graphical user interface.

62. An apparatus as recited in claim **61** wherein said force is determined, at least in part, by a location of said cursor in said graphical user interface with respect to targets located in said graphical user interface.

63. An apparatus as recited in claim **62** wherein a type of said force sensation applied to said physical object depends on a particular target of said graphical user interface into which said cursor is moved.

64. An apparatus as recited in claim **63** wherein said force sensation on said physical object assists said user to select said at least one program function associated with said force sensation or informs said user of other graphical objects in said graphical user interface which can be manipulated to perform said at least one program function.

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